



NEWS

from the CENTER FOR INVASIVE PLANT MANAGEMENT

February 2009

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Coming Soon! National Invasive Weeds Awareness Week



National Invasive Weeds Awareness Week (NIWAW) will be observed February 22-26, 2009, in Washington, DC, with four days of training, discussion, and visits to Capitol Hill.

This year NIWAW begins with an all-day advocacy training workshop on February 23 sponsored by the Healthy Habitats Coalition. Morning roundtable discussions with federal agency personnel on February 24 and 25 will provide opportunities for attendees to learn more about federal programs and share insights with Washington-level personnel in a small-group setting. Networking will be the aim of an evening reception at the U.S. Botanical Gardens on February 24.

The Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) will host the morning session on February 26 which will focus on grants available through federal programs. The Healthy Habitats Coalition will facilitate an open afternoon discussion to solicit ideas for national legislation in the future.

NIWAW is sponsored by the Invasive Weeds Awareness Coalition, an informal group of agencies and organizations that fosters national invasive plant awareness. The event is coordinated by the Weed Science Society of America. Additional conference information is available online, at <http://www.nawma.org>.

WWCC Meeting Highlights

Established in 1994, the WWCC is a voluntary, 501(c)(3) nonprofit organization made up of state and federal agencies, state weed coordinators, NGOs and other interested parties. WWCC and its members are dedicated to preventing the introduction and spread of noxious weeds and undesirable plants in the western United States.

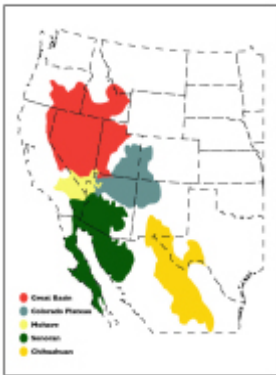
The WWCC annual meeting primarily provides a forum for western regional cooperation, promotes discussion and resolution of problems, and provides an opportunity for the exchange of ideas. The main theme of the 2008 WWCC meeting—held from December 2 to 4 in Las Vegas, Nevada – was *Working Together and Sharing Information to Promote Success in the West*. The meeting was well attended by 27 participants representing the Forest Service, Environmental Protection Agency, Fish and Wildlife Service, Natural Resource and Conservation Service, Bureau of Reclamation, National Park Service, Bureau of Land Management, Animal Plant Health Inspection Service, North American Weed Management Association, Center for Invasive Plant Management, State Departments of Agriculture (WY, MT, UT, NV,

AK, and CO), Princeton University, Burlington Northern-Santa Fe Railway, DuPont, The Nature Conservancy, and the Montana Noxious Weed Awareness Campaign.

Twelve presentations were given during the two-day event, covering topics ranging from invasive plants and climate change, to noxious weed seed free forage program modifications, to the regional application of the *What's in Your World* educational program. Other group discussions focused on: 2009 funding opportunities, the new Farm Bill, the APHIS Q-37 Plants for Planting Quarantine, the Bureau of Reclamation's Water for America program, the newly-formed State Weed Coordinators Alliance, and organization and agency updates.

Anyone actively involved in, or concerned about, invasive plant species issues in the western United States is encouraged to join the WWCC. For more information on the WWCC visit their website at <http://www.weedcenter.org/wwcc/>. If you would like your name added to the WWCC distribution list please contact Slade Franklin, WWCC President, at Wyoming Department of Agriculture, (phone) 307.777.6585, sfrank@state.wy.us.

Wildfires and Invasive Plants in American Deserts



The Society for Range Management (SRM), with support from many organizations, groups, and agencies, hosted the *Wildfires and Invasive Plants in American Deserts* symposium and workshop in Reno, Nevada, December 9-11, 2008. The conference attracted over 300 people who came to share their knowledge and learn about the interactions among native, non-native plants, and changing wildfire regimes in the Sonora, Chihuahua, Mojave, and Great Basin deserts on the Colorado Plateau.

Visit the SRM website to read about plenary and workshop sessions, and to view presentations.

Healthy Habitats Coalition – Off and Running

With an interest in year-round advocacy for invasive plant issues at the national level, a diverse group of individuals and organizations convened last fall to form the Healthy Habitats Coalition (HHC).

The goal of HHC is to secure federal funding and enact legislation to protect the nation's lands and waters from the harmful economic and environmental impacts of invasive species. Recently HHC has advocated funding for invasive species management to create "green" jobs for the nation, confident that such funding can support existing successful projects, put people to work, and be good for the economy over the long term.



HHC will host a one-day advocacy training workshop on February 23 during National Invasive Weeds Awareness Week (NIWAW) in Washington, DC.

HHC is organized under Wildlife Forever a sportsmen's non-profit conservation group. The coalition is directed by a steering committee and advisory council comprised of a cross-section of diverse stakeholders. Working in Washington, DC, HHC Director, Tim Richardson, lobbies and coordinates national efforts to obtain enhanced federal legislation and resources for invasive species prevention and management.

HHC includes non-governmental organizations, industry, academia, state and county agencies, and invasive species managers striving to:

- reduce economic and environmental harm caused by invasive species
- advocate structural and budgetary change within the federal government to achieve long-term prevention and management of invasive species
- coordinate invasive species management efforts across federal, state, and local organizations

For more information about HHC, contact CIPM staffer Janet Clark at janet.clark@montana.edu.

CWMAs Reaching Out

Awareness and outreach efforts are crucial to engaging a broader audience in invasive plant issues. Across the country, cooperative weed management areas (CWMAs) are reaching out to the public in various ways.

Four presentations highlighted Awareness and Outreach programs at the “People-Powered Projects” national CWMA conference held in 2008:

- **Evaluating Your Program:** Sue Donaldson (University of Nevada Cooperative Extension) asked “How do you know your awareness program worked?” and discussed the importance of program evaluation.
- **User-Friendly Websites:** Connie Bollinger (Center for Invasive Plant Management) explained how to build user-friendly websites.
- **Citizen’s Against Noxious Weeds Invading the North:** Laurie Zaumseil (Citizens Against Noxious Weeds Invading the North) described Alaskan efforts to gain attention for invasive plant issues as she and others built a CWMA in Anchorage.
- **Outreach and Education with the Green Industry:** Ellen Jacquart (The Nature Conservancy, Indiana) provided valuable information about working on prevention with “the green industry” – horticulture, landscaping, nurseries, seed trade, and other plant-based industries.

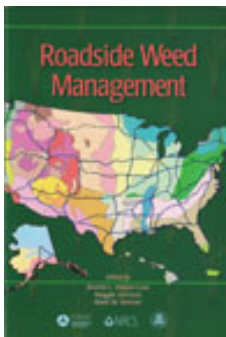
These 15- to 20-minute PowerPoint presentations with audio are available to [view online](#).

FHWA and Roadside Weed Management

Millions of miles of highway rights-of-way traverse public and private lands across the United States, providing pathways for movement of invasive species. The Federal Highway Administration (FHWA), a major agency of the US Department of Transportation (DOT), actively works to implement Executive Order 13112, which directs Federal agencies to expand and coordinate their efforts to combat the introduction and spread of plants and animals not native to the United States.

Under Executive Order 13112, State DOTs have new opportunities to address roadside vegetation management issues on both their construction activities and maintenance programs. Through new levels of cooperation and communication with other agencies and conservation organizations at all levels, the highway program offers a coordinated response against the introduction and spread of invasive species. The FHWA provides technical support and resources to each State Highway Agency.

The 2007 publication, *Roadside Weed Management* (reviewed below), is one example of the FHWA’s efforts to provide guidance and support for managing invasive plants along roadways. Visit the FHWA Roadside Vegetation Management program website for detailed information on DOT policy guidance, and additional information about educational tools and publications, invasive species control methods, State DOT contacts, and more. Or, contact Bonnie Harper-Lore at bonnie.harper-lore@fhwa.dot.gov, (651) 291-6104, fax (651) 291-6000.



Review: 2007 FHWA Publication, *Roadside Weed Management*

A review by Daryl D. Smith, Director of the Tallgrass Prairie Center and Professor of Biology, University of Northern Iowa, Cedar Falls, IA 50614-0294. This review originally appeared in the March 2008 issue of Ecological Restoration, Volume 26:83-84. The University of Wisconsin Press.

Citation: Bonnie L. Harper-Lore, Maggie Johnson and Mark W. Skinner, editors. 2007. *Roadside Weed Management*. U.S. Department of Transportation, Federal Highway Administration. Publication Number FHWAHEP-07-017. 369 pages.

Roadside Weed Management, like its companion handbook, *Roadside Use of Native Plants* (FHWA-EP-99-014), is a compilation of information from a variety of sources regarding control of invasive weed species. Author Harper-Lore explains in the introduction “We drew from many national experts to go beyond the law and policy of weeds to the applied science of weed control and management.” The intent of the book is to provide impetus for cooperation and integrated management across agency and governmental boundaries.

Invasive weeds are of international concern and certainly a current topic of intense interest to many agencies and organizations. Roadsides can be corridors for the movement of invasive weeds. The necessity to control invasive species

is well recognized, but the means of achieving that control is less clear. Clearly, roadside vegetation management practices and programs must be an integral part of any landscape-scale control programs. Cooperation between states and countries is critical; invasive weeds don't recognize state or national boundaries.

Funding limitations, difficulty of establishing priorities, and a need for a high level of coordination and cooperation to implement strategies present considerable challenges in developing a plan of action for control, eradication, and monitoring of invasive plants. This handbook will be useful to those initiating and maintaining such cooperative activities and programs. It provides important information for writing and implementing policies for invasive weed control as well as the information needed to establish a national interagency network, our best hope.

Part I consists of a series of essays on topics related to weed prevention, control methods, roadside restoration, and examples of invasive weed education. The 38 essays by individuals and organizations are a potpourri of techniques, activities, and projects to develop a greater understanding of the issues involved and to spark ideas for addressing the problem. A listing of their affiliation below the names of the authors of the essays would have been helpful since the authors represent a wide range of universities, government agencies, and organizations. Universities include Brigham Young, Cornell, Montana State, Northern Iowa, Washington, and Wisconsin-Madison. State Departments of Transportation include Florida, Idaho, Oregon, Minnesota, Iowa, Washington, and Wisconsin. Federal agencies represented by contributors include the Forest Service, Engineer Research and Development Center, Federal Highway Administration, Environmental Protection Agency, Natural Resources Conservation Service, and National Noxious Weed Program. Private organizations represented include the Nature Conservancy, Arizona-Sonora Desert Museum, Duckworth-Cole Environmental Consulting, the Brooklyn Botanic Garden, and others.

The Prevention section offers methods to prevent the spread of invasive species and the use of early detection to prevent their establishment. The Control Methods section, as expected, describes methods, techniques, and projects for controlling established weeds. The Roadside Restoration Section deals with the establishment of suites of native species that will exclude or outcompete invasive weeds. Part I concludes with a section titled, "Education Examples," a collection of programs, conferences, and organizations aimed at increasing awareness of invasive species and the need to control them.

A compilation of policies and laws relevant to invasive weed control in Part II comprises the bulk of the book (256 pages). This part leads off with a summary of federal procedures, laws, and lists related to noxious weeds. The remaining portion is a state-by-state summary of weed laws, noxious weed lists, and informational resources.

Part III is a compendium of national weed policies from 1999 to 2006. It begins with a chronology of weed awareness, followed by memoranda and documents providing guidance for implementing Clinton's Executive Order 13112 concerning Invasive Species. Products resulting from this executive order include the National Invasive Species Council; legislative action regarding invasive weeds in the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU); and Public Law 109-59, Environmental Restoration and Pollution Abatement: Control of Noxious Weeds and Aquatic Noxious Weeds and Establishment of Native Species. Also included is an example of a Voluntary Code of Conduct for government agencies. This code of conduct for dealing with invasive plants is similar to those used by nursery professionals, landscape architects, botanic gardens, and arboreta. The code was drafted at an international meeting of experts at the St. Louis Botanical Garden in December 2001.

Part IV contains many valuable references grouped by headings such as Contributors to the Handbook, Native Plant Information, Aquatic Weed State Contacts, U.S. Fish and Wildlife Contacts, and Examples of Public Awareness. These resources will be useful for those working to initiate policies and programs. Unfortunately, organizational affiliations and biographical sketches are missing for some individuals.

Anyone developing policy and procedures for interagency, interstate, or international programs to contain and control invasive weeds species should have this handbook on his or her shelf. The book will help us meet the challenge of providing national leadership, or leadership on a national scale, for the development of an intercontinental or worldwide, scientifically based, unified program for the control of invasive weed species.

Research Findings: Leafy Spurge



The following journal articles are highlighted as useful resources for land managers who want to expand their knowledge of current research and applications to invasive plant management. Abstracts of published papers typically can be viewed online for free, but full articles often require a paid subscription.

This month, we focus on leafy spurge. Brief descriptions of research findings for the following papers are provided.

A bioeconomic model of cattle stocking on rangeland threatened by invasive plants and nitrogen deposition.

David Finnoff, Aaron Strong and John Tschirhart. *American Journal of Agricultural Economics*. 2008. 90:1074.

It is commonly accepted that non-native plant species often invade areas that are disturbed or degraded. Because uninvaded rangelands and the growth of desirable grasses provides the livelihood for ranchers, most of them work hard to assure cattle are stocked at a rate that does not degrade the land and lead to invasion. Finnoff et al. however, point out that increased nitrogen deposition may also threaten the productivity of rangelands and lead to invasion of nonnative species even without overgrazing. The authors argue that changes in plant successional thresholds are due to interplay between nitrogen deposition and stocking rates, and that overstocking can create ecosystem niches for invaders.

Integrating Flea Beetles (*Aphthona* spp.) with Herbicide and Grasses for Leafy Spurge (*Euphorbia esula*) Management.

Ankush Joshi. *Weed Technology*. 22:523. 2008.

The utility of integrated management for leafy spurge control was demonstrated in a 5-year study in North Dakota grasslands. In this study, plots infested with leafy spurge (*Euphorbia esula*) were treated with fall application of imazapic herbicide (105 g ai/ha or 0.094 lb ai/ac), seeding of native grasses, biological control (*Aphthona* beetles), or combinations of these. Leafy spurge reestablished after a single application of imazapic, but was maintained at a mean density of <11 stems per meter squared when the *Aphthona* beetles established or the plot was interseeded with native grasses. The density of *Aphthona* beetles declined with the declining spurge population, but the remaining beetles, in combination with native grass competition, continued to suppress leafy spurge. The author suggested that herbicide application can thin leafy spurge populations enough to allow native grasses to establish, and biological control with *Aphthona* beetles provides a competitive advantage for the grasses, leading to long-term spurge control.

Leafy Spurge Suppression by Flea Beetles in the Little Missouri Drainage Basin, USA.

Luke W. Samuel, Donald R. Kirby, Jack E. Norland, and Gerald L. Anderson. *Rangeland Ecology and Management* 61:437-443. 2008.

Since 1999, *Aphthona* spp. flea beetles have been collected and redistributed throughout the Little Missouri River basin to control leafy spurge (*Euphorbia esula*). A study was initiated in 2002 to study the effects of the beetles on leafy spurge populations on 292 sites. Results indicated that leafy spurge stem density was reduced on 91% of the sites, and on two-thirds of these sites, stem density was reduced from >100 stems per meter squared to <25 stems per meter squared. Results further indicated that the *Aphthona* beetles had widespread effects on some sites, suppressing leafy spurge over areas as large as 30,000 square meters. The authors stated that the ultimate effect of the *Aphthona* beetles was plant communities that are characterized by an increased occurrence of native perennial grasses in xeric sites and more invasive exotic grasses such as Kentucky bluegrass in mesic areas. In conclusion, the authors suggested that “1) flea beetles are a viable option for leafy spurge suppression, and the continued release of beetles will hasten the process; 2) most sites will have some leafy spurge suppression from introduction of flea beetles; and 3) because the plant communities after leafy spurge suppression are characteristic of undisturbed plant communities, grazing to stimulate graminoid tillering or fall prescribed burning following flea beetle egg laying may be management options applied to hasten restoration of native plant communities.”

Soil modification by invasive plants: effects on native and invasive species of mixed-grass prairies.

Nicholas R. Jordan, Diane L. Larson, and Sheri C. Huerd. *Biological Invasions* 10:177-190. 2008.

It has been suggested that positive feedbacks between invasive plants and soil can contribute significantly to further plant invasions. To test this hypothesis, research was conducted on the invasive species leafy spurge (*Euphorbia esula*), smooth brome (*Bromus inermis*), and crested wheatgrass (*Agropyron cristatum*). Each species was grown separately in pots in a greenhouse through three growth cycles, and then seeds of various species were planted in the pot's soil. Smooth brome and crested wheatgrass exhibited self-facilitation (i.e., seedlings grew better in soil where the species had previously been grown) and they also had facilitative effects on the growth of other invasive species while suppressing two of three native forbs but not native grasses. The effect of leafy spurge conditioned soil was antagonistic to all other species. The results indicate that these invasive species may facilitate further invasion and also impede restoration of native communities even after successful removal of the invasive species. However, results also show that certain forbs (e.g., blue flax, *Linum lewisii*) and native grasses are less affected by invasive species conditioned soil, and thus are good candidates to use for revegetation projects.

CIPM Awarded Funding for Three Grants

CIPM was recently awarded funding for three grants:

Western Integrated Pest Management Center - \$37,000

Invasive Plant Inventory and Survey Methods for Land Managers: A Web Seminar Series

The web seminar series will consist of six interactive seminars on inventory and survey methods. The seminar series is based on chapters from the publication *Inventory and Survey Methods for Nonindigenous Plant Species* (L.J. Rew and M.L. Pokorny, editors, 2006, Montana State University Extension). CIPM coordinated and funded the development and printing of the publication, which presents practical inventory and survey methods that are being successfully applied over large areas, and provides guidance on selecting methods to best meet the objectives of an IPM strategy. CIPM will develop and facilitate the web seminars, and five weed ecologists will be instructors. The seminars will be offered in January-February, 2010.

Western Integrated Pest Management Center - \$10,000

Invasive Plants in Natural Areas: Connecting Regional Centers across the United States

Eight regional invasive plant centers will meet for two days to consider establishment of a national network of organizations focusing on invasive terrestrial and aquatic plants in non-crop areas. The identified organizations (located in CA, CO, CT, FL, GA, IN, MT, TN) educate and serve natural resource managers through programs that have proven successful. They are all committed to an ecological, integrated approach to pest management. Working together, these organizations have the potential to offer more comprehensive services more efficiently. A face-to-face meeting facilitated by CIPM will provide a forum to explore ideas and come to consensus on concrete actions to build an efficient, information-sharing network and possibly collaborate on multi-regional or national projects. The meeting is planned for January, 2009.

Department of Defense Legacy Program - \$114,000

Strategic Management of Invasive Species in the Southwest

A five-day workshop will instruct military installation personnel in the southwestern United States on invasive species ecology, including ecosystem disturbance and dynamics, prevention, detection, management, and regional partnerships. The goal of the workshop is to meet the practical needs of natural resource managers by providing them with knowledge and resources that they can use to prioritize and effectively address invasive species problems. The workshop will be developed and coordinated by CIPM, and instructed by science and management specialists, including research faculty from the LRES Department. The workshop will occur late autumn of this year.

CIPM Store: Featured Products



20% OFF! Inventory and Survey Methods for Nonindigenous Plant Species – Practical information on inventory and survey methods for sites of any size, staffing level, or budget. Color photos, maps, and diagrams; 80 p.; \$20. The discounted price of \$16 includes shipping and handling. Send an email to weedcenter@montana.edu to place your order and receive your discount. Offer available until March 31, 2009.

FREE! “Defending Favorite Places” DVD – Second video in a planned series of invasive species DVDs targeting specific audiences and sponsored by the national Invasive Species Threat Campaign. Order from the CIPM Store, or view online.



CIPM Online

The following briefs, resources, events, and job listings have been added to our website since the last issue of this newsletter.

CIPM WEBSITE HAS A NEW LOOK AND FUNCTION

Explore the new CIPM website! In addition to giving the website an aesthetic makeover, we added navigation buttons at the top of the page that provide information about our programs and services (Research, Outreach, Policy, etc.), and restructured our popular Resource Directory (right side menu) to improve navigation through our extensive library of invasive plant information. We welcome your comments about these exciting changes. Email us at weedcenter@montana.edu.

UPDATES TO THE CIPM RESOURCE DIRECTORY

The online resources featured in this section are archived within CIPM's online resource directory. Visit our website to browse extensive resources for funding opportunities, invasive plant information, management, education, CWMAAs, and agencies and organizations.

USDA Grants Workbook – This workbook contains basic information on programs in USDA that could be used to fund invasive species related projects. This list should be a helpful place to start a search for resources for invasive species activities but by no means represents the complete universe of potential invasive species funding opportunities.

ZipcodeZoo – ZipcodeZoo works to bring the natural world to armchair, amateur, and professional naturalists by serving as an online field guide to plants and animals of the world. Often, to be useful, a field guide must have a sense of where you are and what might be found there. Enter your zip code to refine the search to your local area.

Invasipedia! – The Nature Conservancy (TNC) houses an extensive (but dated) library of management documents for mostly plant invaders on our website. TNC has now uploaded most of these documents into a “wiki” format, so that the latest and greatest management information (from YOU!) can be easily entered and updated. Need the latest info on *Phragmites* or *Typha* management? What has and has not worked? Check out what we have already entered, and please add your experiences and make your additions here!

Stemming the Tide: Garlic Mustard Identification and Control - This educational video on the identification and control of garlic mustard is brought to you by Wisconsin Family Forests. Read more about this project at the Wisconsin Township Alliance blog spot.

Invasive Phragmites: What it is, What we can do - This educational video on the identification and control of invasive *Phragmites* is brought to you by Peaine Township, Beaver Island, Michigan.